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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,181	09/14/2000	Richard J. McCurdy	L10389	2443

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EXAMINER

CHEN, BRET P

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 05/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

**Office Action Summary**

Application No.

09/662,181

Applicant(s)

MCCURDY ET AL.

Examiner

B. Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 33-42, 44 and 47-99 is/are pending in the application.
- 4a) Of the above claim(s) 56-99 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-42, 44, 47-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

Claims 33-42, 44, 47-99 are pending in this application; which is a RCE of Serial Number 09/662,181, which is a CON of Serial Number 09/199,539 now abandoned; which is a CON of Serial Number 08/696,203, now abandoned.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 56-99 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 33-42, 44, 47-55 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 33 line 10, the term "in the crystalline phase" is deemed new matter. The same issue applies to claims 35, 41, 47, 49, 51, 55.

In claim 33 line 10, the term "photocatalytically-activated self-cleaning coating" is deemed new matter. The same issue applies to claims 35, 37, 40-43, 47, 49, 51, 54, 55.

In claim 37, the phrase "to form a dimensionally stable glass float ribbon" is deemed new matter. The same issue applies to claim 51.

In claim 42 lines 6-7, the phrase "said silica layer inhibits migration of sodium ions ... self-cleaning coating" is deemed new matter.

In claim 47, the limitation "said coating has a photocatalytically-activated self-cleaning reaction rate of at least about  $8.1 \times 10^{-3}$  to  $9.1 \times 10^{-3} \text{ cm}^{-1} \text{ min}^{-1}$ " is deemed new matter. The same issue applies to claim 49, 51, 55.

### ***Response to Arguments***

Applicant's arguments filed 3/1/04 have been fully considered but they are not persuasive.

Applicant makes the following arguments and relies on the Second McCurdy Declaration for support:

- 1) the samples were produced in accordance with Example 1 (p.19),
- 2) the coating was crystalline (p.20),
- 3) the coating was photocatalytic self-cleaning (p.20),
- 4) that a silica layer was present (p.21)
- 5) that other parameters had no effect on the coating (p.21).

It should be noted that the Second Declaration discusses in paragraph 5 that the Declarant uses a slower linespeed to produce a thicker film. In paragraph 6, the Declarant states that the X-ray diffraction pattern proves that the coating is crystalline. In paragraph 7, the Declarant relies on the original Declaration to show that the coating is photocatalytic self-cleaning. In paragraph 8, the Declarant argues that other properties do not effect the properties of the film.

Both Declarations rely on Example 1, which recites a float glass process using very specific parameters as noted in applicant's specification on pp. 16-20 including:

- a) a substrate temperature of 1170°F
- b) a substrate line speed of 300 inches/minute
- c) a precursor gas mixture comprising 0.7% titanium tetrachloride, 17.2% ethyl acetate, 7.2% oxygen, and 74.9% helium by volume percentage
- d) flow rates (liters/minute) of 0.2 titanium tetrachloride, 4.8 ethyl acetate, 2.0 oxygen, and 20.9 helium
- e) a temperature of the precursor mixture of 300-950°C
- f) moving substrate
- g) specific temperatures for the precursor tower and the reactor face
- h) cooled in air.

As mentioned in the previous office action, it should be noted that there were variations (albeit deemed minor by the applicant in line 3) and this may result in the claimed characteristics. Applicant has not rebutted the examiner's position. Regardless, the applicant has not utilized the same line speed of the original specification and hence, may have produced different results. There is no conclusive evidence that these did not produce the claimed characteristics. It should be noted that nowhere in the McCurdy application is there any mention that the above parameters would not indeed influence the claimed properties.

Assuming that it could be established that the claimed characteristics would be inherent to the claimed process, it is noted that the claims as presently written do not recite these limitations. Applicant would need to include these specific parameters in order for the new matter rejection to be withdrawn. It is noted that applicant will only have established that this specific example produced a self-cleaning product and it is only proper to use such a phrase to be

descriptive of the specific example. There is no indication in this application that at the time of filing that the applicant was in possession of the general concept of producing a self-cleaning surface. Therefore, using the expression of self-cleaning other than as a characteristic of this very specific example would constitute new matter.

Again, as previously mentioned in the previous office action, the applicant has merely mentioned substrate transportation technique, a silica coating, specific precursors and carrier gas, substrate and precursor temperature, line speed, mixture, mixer, and volume percent composition. There is no mention of the annealing properties including rate, temperature, atmosphere, heating source nor is there any mention of substrate purity, substrate crystallinity, processing pressure, precursor purity – any or all of which can account for the claimed characteristics. MPEP 2163.07 (a) states that to establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

It should be noted that the applicant's specification requires a precursor mixture temperature of 300-950°C (p.17 lines 18-23). It should be noted that the applicant has not provided any factual evidence that the process would necessarily form a crystalline TiO<sub>2</sub> film that is photocatalytically-activated self-cleaning throughout the entire broad range.

With respect to the Declarant arguing that no other properties affect the coating, it should be noted that no factual evidence supporting same were provided. It should be noted that these

parameters are conventionally varied in routine experimentation to optimize the coating properties. It seems implausible that there would be no effect on the coating in the absence of a showing of factual evidence.

Applicant next argues that the term "dimensionally stable" simply refers to the glass float ribbon having dimensions (thickness and width) which are stable as a result of a ribbon cooling and is conventional to a float glass process and thus not new matter (p.7).

The examiner disagrees. It is first noted that nowhere in the original specification is there any mention of such a limitation. It should also be noted that nowhere in the cited references is there mention of same. Applicant has not established that it is conventional that the glass would be dimensionally stable upon cooling.

Applicant next argues that "said silica layer inhibits migration of sodium ions is not new matter and cites US Patent 6,265,076 and a textbook (p.8).

It is first noted that US Patent 6,265, 076 states that "barrier layers may be utilized to prevent the migration of alkali metal ions from the glass substrate into the film" and that "the barrier layer is ... about 100-200 angstroms thick" (col.3 lines 30-37). The textbook reads that "a 200 A thick silica film is ... sufficient to prevent ... most of the alkali ions at the glass surface from migrating into a ... deposited  $\text{TiO}_2$  film (p.109).

It should be noted that nowhere in the instant claim is there any recitation of a glass substrate. Hence, there is no reason for the skilled artisan to believe that a barrier layer could prevent migration of sodium ions from any article of manufacture. Furthermore, the applicant requires a thickness of 339 angstroms. There is no mention that the barrier properties would still

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exist at that thickness. Hence, the arguments are not commensurate in scope with the claims as presently written.

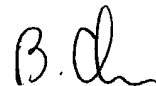
Applicant's arguments have been considered but are not deemed persuasive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Chen whose telephone number is (571) 272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bc  
5/6/04



BRET CHEN  
PRIMARY EXAMINER